Presale:

Stack Infrastructure Issuer LLC (Series 2019-1)

January 23, 2019

PRIMARY CREDIT ANALYST

Jesse R Sable, CFA
New York
(1) 212-438-6719
jesse.sable
@spglobal.com

SECONDARY CONTACTS

Srabani C Chandra-Lal
New York
(1) 212-438-5036
srabani.chandra-lal
@spglobal.com

Chang Ge
New York
(1) 212-438-4389
chang.ge
@spglobal.com

Jie Liang, CFA
New York
(1) 212-438-8654
jie.liang
@spglobal.com

RESEARCH ASSISTANT

Matthew S Gardener
New York

Preliminary Rating

Class	Preliminary rating(i)	Preliminary amount (mil. $)	Maximum LTV (%)(ii)	Anticipated maturity (years) (iii)	Legal maturity (years)
A-1	A- (sf)	125.00	70	4	25
A-2	A- (sf)	725.00	70	5	25

Note: This presale report is based on information as of Jan. 23, 2019. The ratings shown are preliminary. Subsequent information may result in the assignment of final ratings that differ from the preliminary ratings. Accordingly, the preliminary ratings should not be construed as evidence of final ratings. This report does not constitute a recommendation to buy, hold, or sell securities. (i)The preliminary ratings do not address post-ARD additional interest. (ii)Maximum allowable class A LTV, per the transaction documentation. As of the closing date, the actual class A LTV is expected to be approximately 61%, assuming the A-1 is undrawn. (iii)Class A-1 has one optional one-year extension. LTV--Loan-to-value ratio. ARD--Anticipated repayment date.

Profile

Expected closing date	Week of Feb. 4, 2019.
Collateral	Primarily mortgages, deeds of trust, and deeds to secure debt creating first-mortgage liens on the interests in the data centers; a perfected security interest in all personal property and fixtures owned by the issuer's subsidiaries located in the data centers; and any reserves and escrows related to the data centers.
Issuer	Stack Infrastructure Issuer LLC.
Manager	Stack Infrastructure Inc.
Servicer	Midland Loan Services.
Indenture trustee	Wilmington Trust N.A.
Sole structuring advisor and joint active bookrunning manager	Guggenheim Securities LLC.

Transaction Overview

Stack Infrastructure Issuer LLC's issuance is a securitization of real estate and tenant lease payments for space and electrical capacity in Stack Infrastructure Inc.'s (Stack's, the manager's) six completed and operating wholesale data centers located across five states. Stack plans to use the proceeds to repay existing debt and for other general corporate purposes, including further development of the data centers.

The transaction's underlying collateral includes both triple-net and modified gross leases. In triple-net lease arrangements, the operating expenses, taxes, insurance, and electricity expenses are borne by the tenant, in addition to the base rent. In modified gross leases, operating expenses (other than electricity), taxes, and insurance expenses are not explicitly reimbursed by the tenant, although such expenses are typically accounted for in their base rent rate.

Approximately 97% of the data centers' leased capacity is leased by large wholesale tenants, which typically require 500 kilowatts (kW) or more of capacity to operate their computing equipment and networks (consisting of racks and servers, network gear, electrical distribution, containment, and network wiring). These tenants typically manage server fleets measured in the hundreds of racks, and they choose to house their infrastructure in wholesale data centers like Stack's in order to design and control their own network infrastructure and manage their costs without sharing allocated space with other customers. The manager provides space, physical security, power and cooling, and ongoing maintenance of the power and cooling systems, while the tenants are fully responsible for all other aspects of their computing infrastructure.

Rationale

The preliminary ratings assigned to Stack Infrastructure Issuer LLC's $850 million data center revenue notes series 2019-1 reflect our view of the lease portfolio's projected performance, the real estate value, the manager's and servicer's experience, the servicer and indenture trustee-provided advances, the available cushion as measured by the estimated closing date debt service coverage ratio (DSCR) of approximately 1.93x, and the transaction's structure.

Our analysis primarily utilized "Methodology And Assumptions For Rating North American Single-Tenant Real Estate Triple-Net Lease-Backed Securitizations," published in March 2016, as we believe wholesale data center leases generally have the same key credit risk factors as single-tenant triple-net leases. As described below, we amended several of our typical triple-net lease assumptions to consider the limited historical performance of the wholesale data center sector and the manager, the multitenant nature of the data centers, and the possibility for average tenant credit quality to drift downward over the transaction's life.

Transaction Strengths

The transaction's strengths, in our opinion, include the following:

- Relatively long average contract terms, with a weighted average remaining term of 6.9 years (weighted by total annualized base rent [ABR]), excluding extension options;
- The current tenants' high average credit quality (53% investment grade, by ABR);
- Low customer churn rates, supported in part by the high cost of tenant relocation;
- Leases important to the tenants' core businesses, with the majority of leased capacity supporting revenue-generating services;
- Majority of leases (78% by ABR) are triple-net, as of closing, which may provide for better net cash flow stability, relative to modified gross leases, by passing operating expenses through to tenants;
- In-place lease rates that are competitive with local market rates, with a weighted average lease rate of approximately $124/kW/month;
- Geographic diversity, with sites in Oregon, Georgia, Illinois, Texas, and California;

- Limited supply and strong demand for wholesale data center space in their respective locations;
- The low cost of electricity in the data centers' respective markets relative to neighboring markets;
- A strong senior management team, with over 10 years of experience, on average, managing and operating data centers;
- An experienced servicer (Midland);
- The class A loan-to-value ratio (LTV), which is constrained at 70% of the assets' appraised value; and
- The transaction's structural features, including performance tests that trigger cash trapping or early amortization if the DSCR drops below certain minimum thresholds.

Transaction Weaknesses

The transaction's weaknesses, in our opinion, include the following:

- Limited tenant diversity, with approximately 18% of initial leased capacity and ABR attributable to one tenant, and 61% of the total ABR attributable to the top five tenants;
- Limited industry diversity, with the majority of tenants in various subsectors of the technology industry;
- Limited historical sector performance data, with approximately 10 years for the wholesale data center segment;
- Limited historical manager performance data, as the manager has approximately five years of operating history;
- The liquidity reserves, sized to approximately three months of note interest, could prove insufficient if a disruptive event, such as a natural disaster, rendered any of the data centers inoperable for an extended period of time;
- The limited restrictions on the terms of future eligible leases, such as tenant credit quality, contract length, and optional termination features, which means that the overall credit risk profile of the lease portfolio could erode over time;
- Upon lease expiration, tenants with reduced needs could choose to migrate to the public cloud or retail colocation data centers; likewise, tenants with increased needs could opt to build, own, and operate their own data centers;
- The transaction does not prohibit the lease portfolio's composition from shifting to majority modified gross leases over time (from triple-net), which could expose the transaction to a higher proportion of non-reimbursed operating expenses; and
- Supply and demand conditions within the data centers' local markets could change adversely over time, driving down lease rates or driving up vacancy rates.

Mitigating Factors

The following factors, in our opinion, partly mitigate the transaction's weaknesses:

- The high costs to tenants of moving to alternative data centers, including time, redundancy (to avoid service interruption), and logistical expenses (moving or duplication of network gear, racks and servers, and related fit-out);
- The lack of penalty-free optional termination provisions in the leases (except for two leases representing less than 2% of the ABR, which may exercise early termination under limited conditions);
- The underlying tenants' initial credit quality;
- The requirement that the issuer maintain comprehensive liability, fire, earthquake, extended coverage, business interruption, and rental loss insurance policies, which we expect to be compliant with the minimum requirements of our insurance criteria for U.S. and Canadian commercial mortgage-backed securities (CMBS) transactions;
- Decreased wholesale data center demand caused by migration of the manager's smaller tenants to the public cloud or retail colocation may be offset by increased demand from tenants that are public cloud providers;
- Interest, priority operating expenses, and maintenance capital expense advancing by servicer, with a backup obligation by the indenture trustee, Wilmington Trust N.A.;
- Should the portfolio's composition shift more to modified gross leases over time, we expect the rent differential between triple-net and modified gross leases would be sufficient to cover the associated increase in non-reimbursed operating expenses;
- The stress scenarios performed in our cash flow analysis, which considered the pool's industry concentration, limited industrial history, and potential for downward migration in average tenant credit quality; and
- The timely interest and ultimate principal payments are paid on the notes by legal final maturity under our stress scenarios.

Wholesale Data Centers

Data centers are real estate facilities that house computer servers and network equipment within a highly secure environment with redundant mechanical, cooling, electrical power systems, and network connections. The wholesale data center operator (the manager of this transaction) is responsible for maintaining the facility's infrastructure, providing physical security, and re-leasing the sites' capacity as it becomes vacant. Wholesale tenants are entirely responsible for the maintenance and management of their racks, storage, and networking equipment.

Wholesale data centers, like those managed in the transaction, place the entire responsibility for managing the tenant's network and equipment on the tenant, whereas retail colocation facilities, which tend to support tenants with shorter-term and smaller capacity needs, may offer varying levels of hands-on support and other services. In either the wholesale or retail data center model, the proper provision of uninterruptable power and cooling is critical to avoid any disruption in the tenant's business operations, especially those whose services necessitate consistent connection to their network through these data centers.

Data center leases are structured in various ways including triple-net and modified gross leases. Triple-net leases require tenants to reimburse the site manager for costs including taxes, insurance, operating expenses, and electricity. Modified gross leases, on the other hand, only require the tenants to reimburse the manager for their electricity expense. Under both types of leases, tenants are responsible for all costs related to the provision, installation, and upkeep of their equipment and network connectivity. Triple-net and modified gross leases are expected to make up approximately 78% and 22% (by ABR), respectively, of the annualized base rent generated by the Stack Infrastructure Issuer LLC Series 2019-1 portfolio as of closing, though this proportion could change over time as capacity is released to future tenants.

Industry Characteristics: Data Center Sector Outlook

S&P Global Ratings has a favorable outlook for the U.S. data center industry over the next few years, supported by favorable demand characteristics driven by increased information technology outsourcing, data growth, and increased application complexity. We estimate that around 80% of enterprises in North America still rely on their in-house data center resources and that data outsourcing needs will continue to grow exponentially along with increases in internet users, connected devices, video consumption, and mobile usage. That said, we believe there are longer-term risks to the industry:

- Oversupply of data center capacity could lead to pricing pressure.
- Data center managers' high capital requirements could limit their financial flexibility.
- The industry has a limited track record of operating and financial performance during periods of economic stress.
- New and evolving technology could cannibalize colocation and interconnection services.
- Scale has become an increasingly important factor in competition.
- Companies at the lower end of the ratings scale are more exposed to these risks.

Business Description: Stack

Stack is an owner, developer, and operator of large, multitenant wholesale data centers. It is owned by IPI Partners, a joint venture sponsored by ICONIQ Capital LLC and Iron Point Partners LLC (the latter, a real estate fund manager formed in 2007). Stack has around $500 million of equity invested in the six operational multitenant wholesale data centers in the securitization portfolio. Stack's management team has over 20 years of experience per person, and it has a staff of around 30 employees, with teams dedicated to sales, legal, accounting, etc. The data centers amount to around 63 megawatts of built capacity and around $78 million of annualized base rent.

Stack's customer base includes tenants across a range of sectors including telecommunications, big data, media, cloud computing, software, and other industries.

Pool And Structural Characteristics

Stack Infrastructure Issuer LLC's data center revenue notes series 2019-1 is a securitization of lease revenue, secured by fee simple ownership interests in five operating wholesale data centers and one operating wholesale data center that is leased pursuant to a tax abatement program (in which the related asset entity will obtain fee simple ownership by December 2025). The data centers are located in Portland, Oregon; Atlanta; Chicago; Dallas; and Silicon Valley, Calif. The operational data centers represent a total of 1.175 million gross sq. ft. and approximately 63 megawatts of built power available to tenants to operate their servers and computing equipment.

Table 1 provides a comparison table on the pool of data centers and their respective leases.

Table 1

Pool Characteristics

	Stack 2019-1	Vantage 2018-2
Appraised value of data centers (mil. $)	1,173	1,591
No. of data centers	6	7
No. of tenants	25	15
S&P Global Ratings' value (mil. $)(i)	595	857
S&P Global Ratings' average cap rate (%)	8.75	8.75
CLP leased (kW)	54,215	72,450
Annualized base rent (ABR) (mil. $)	77,970	104,852
% leases triple-net(ii)	78	0
% leases modified gross(ii)	22	100
Weighted average original lease term (years)	10.8	10.8
Weighted average remaining lease (years)	6.9	7.6
Range of original lease (mos.)	60-200	36-240
Range of remaining lease (mos.)	9-144	19-172
Closing date DSCR	1.93x	1.97x
% of tenants investment-grade rated(ii)	53	77
Largest five tenants, % of ABR	61	71
Largest five tenants(ii)	Tenant 1 (18.3%), tenant 2 (12.1), tenant 3 (10.9%), tenant 4 (10.6%), and tenant 5 (9.2%)	Tenant 1 (29.3%), tenant 2 (12.2), tenant 3 (11.7%), tenant 4 (10.9%), and tenant 5 (7.0%)
Largest three business sectors(ii)	Big data (31.4%), telecommunications (22.0%), and media (17.9%)	Cloud (40.9%), tech hardware (18.6%), and big data (12.5%)
State concentrations	Texas (41.1%), Oregon (27.9%), California (13.1%), Georgia (9.8%), Illinois (8.2%)	California (87.8%) and Washington (12.2%)

(i)Represents the liquidation value estimated in accordance with S&P Global Ratings' "CMBS Global Property Evaluation Methodology", published Sept. 5, 2012. (ii)By annualized base rent. CLP--Critical load power. DSCR--Debt service coverage ratio. kW--Kilowatt. Stack--Stack Infrstrastructure 2019-1 Issuer LLC. Vantage: Vantage Data Centers Issuer LLC.

Charts 1 through 5 illustrate further details of the underlying portfolio.

Chart 1

Portfolio Distribution By Tenant

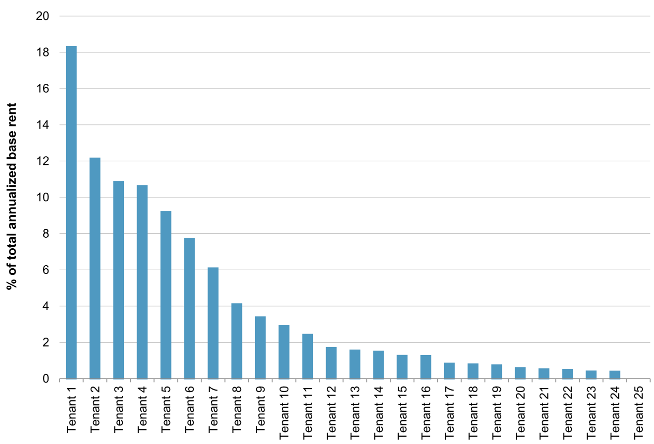
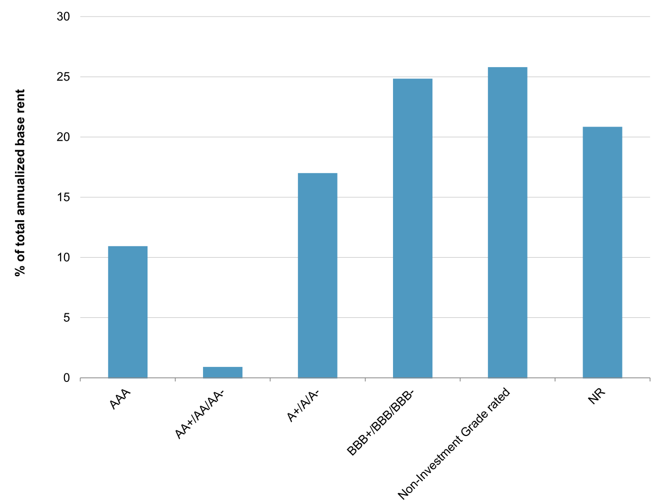


Chart 2

Tenant Credit Rating



NR--Not rated.

Chart 3

Portfolio Distribution By Industry

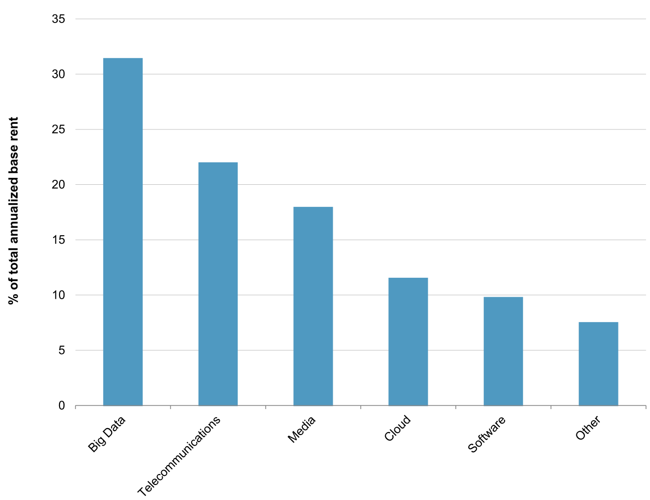
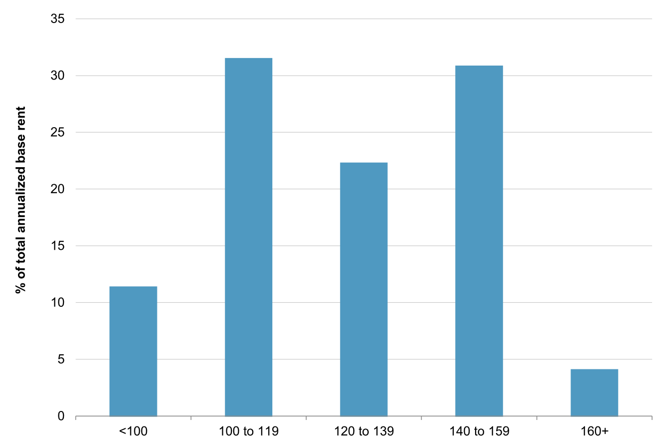


Chart 4

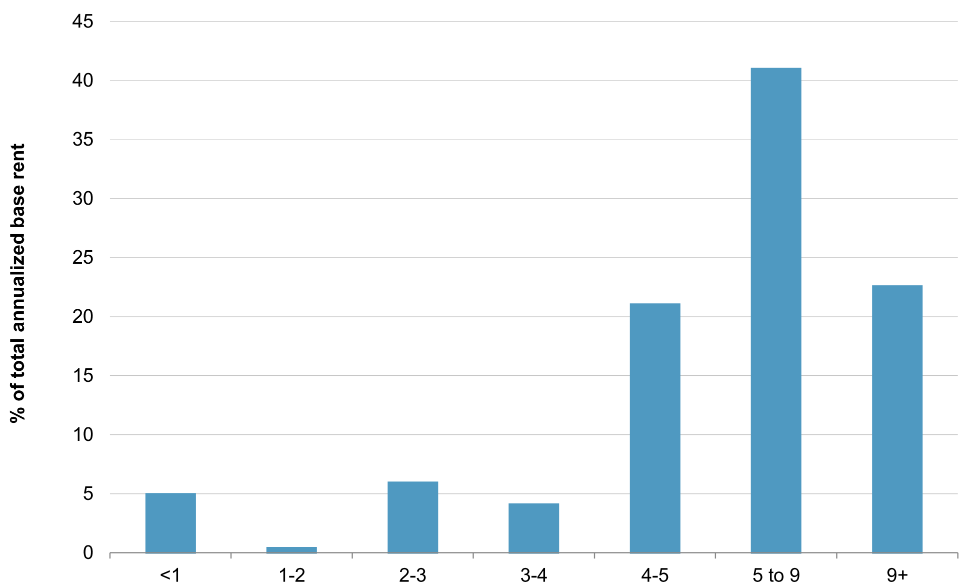
Portfolio Distribution By Monthly Rent ($/kW)



kW--Kilowatt.

Chart 5

Portfolio Distribution By Remaining Term (Years)



Manager Operating Duties

Stack, as the manager of the transaction, will have certain operating duties specified in the management agreement. Those duties include:

- Marketing the data center space to new tenants;
- Negotiating and executing new tenant leases and renewals;
- Administering tenant leases, including invoicing rent and other receipts, and managing delinquencies and defaults;
- Maintaining insurance (including property, casualty, and business interruption);
- Paying real and personal property taxes;
- Keeping the data centers in compliance with applicable laws and regulations;
- Providing for necessary maintenance and arranging for utilities (including electricity), services, equipment, and supplies;
- Providing physical security to the data centers, including guards, finger print monitors, fencing, and other mechanisms to provide for the physical safety of tenants' infrastructure; and

- Managing capital improvements and other construction in connection with the leasing of site space.

The issuer will pay the manager a monthly management fee equal to 3.0% of the aggregate base rent as compensation for those duties (not including the operating and maintenance capital expenses).

Manager Performance Obligation

The tenant leases include service-level agreements (SLAs) that require the manager to provide uninterrupted levels of electricity, access, and cooling to the tenant. In support of that requirement, the manager maintains, as part of the data center infrastructure, backup batteries and generators that provide uninterrupted power in the event of temporary electric utility outages. Most SLAs provide remedies for the prolonged or repeated interruption of critical services. These remedies are generally limited to the reimbursement of a portion of already paid rent in proportion to the duration of the outage (although in practice no cash flows would be paid back to the tenant; they would merely be netted against future rent obligations). Based on our assessment of the manager's operational procedures, experienced management team, and negligible number of SLA breaches during its operating experience, we believe that the possibility of SLA breaches represent a minimal risk to the cash flows.

Transaction Expenses

Transaction expenses, other than the management fee, fall into the three categories summarized in the table 2.

Table 2

Expenses

Expense category	Payment priority	Expenses covered	Monthly budgeted expense amount(i)
Priority expenses	First payment in application of funds	Taxes, insurance premiums, electricity (subsequently charged to the tenants), and, if applicable for future series, rents payable relating to any data center including any ground rents(ii).	$3.16/kW for each data center.
Operating expenses	Fifth payment in application of funds (following the payment of note interest)	Site labor operations, repairs and preventative maintenance, utilities (excluding electricity), and security	$7.26/kW for each data center, subject to an annual 2.0% escalator.
Maintenance capital expenses	Fifth payment in application of funds (following the payment of note interest)	Maintenance and replacement of batteries; capacitors (uninterruptable power supply), electrical switches, and generators; chiller plants; cooling towers, motors, and compressors; and other infrastructure components.	$4.17/kW subject to an annual 2.0% escalator.

(i)Applied against aggregate critical load power of the completed data centers. (ii)The issuer has fee simple ownership over all real estate; however, it is possible that additional collateral in which the issuer does not have fee simple ownership may be contributed in conjunction with future note issuances. kW--Kilowatt.

Based on the manager's expense estimates, expense estimates provided by the independent real estate appraiser in conjunction with the data center appraisals, and comparable values we've seen in CMBS transactions, we believe the expenses budgeted for in the payment priority are adequate. Furthermore, in the Sensitivity Analysis section below, we've solved for the breakeven increase in the operating and maintenance capital expenses--beyond the 2.0% annual escalation currently budgeted for in the transaction documentation--that the transaction can withstand while still paying timely interest and ultimate principal.

Transaction Structure

The issuer is a bankruptcy-remote special-purpose entity (SPE) that may, at a future date, issue additional series of notes (subject to satisfaction of certain conditions, including DSCR and LTV tests), secured by the entire collateral pool. Each month, available funds will first be used to pay expenses on the collateral pool in the priority shown in table 3.

Table 3

Collateral Pool Expense Waterfall

Priority	Payment
1	Priority expense reserve.
2	First, prior payment dates' unpaid indenture trustee, servicing, and other servicing fees; then, unreimbursed advances and interest; and then, remaining unpaid indenture trustee, servicing, and other servicing fees.
3	First, additional issuer expenses to the indenture trustee, servicer, and/or other applicable person so as not to exceed the annual additional issuer expense limit; and then the VFN agent fee.
4	Accrued note interest for all notes and accrued and unpaid commitment fees, as well as other fees, expenses and other amounts due to the VFN notes.
5	Monthly expense amount to the obligors excess of amounts drawn from the liquidity reserve for operating and maintenance capital expenditures.
6	Unpaid management fee to the manager.
7	Operating expenses and maintenance capital expenditures for current calendar month in excess of amounts drawn from the liquidity reserve sub-account, not including servicer-approved monthly expense amounts.
8	Required liquidity reserve amount.
9	If an amortization period is not then in effect and no event of default has occurred and is continuing, an amount equal to any class A LTV test sweep amount as of the application date.
10	If an amortization period is not then in effect, a cash trap condition is not then in effect, and no event of default has occurred and is continuing, an amount equal to the class A-2 monthly amortization amount for any class A-2 notes of a series.
11	If an amortization period is not then in effect and no event of default has occurred and is continuing, the additional principal payment amount together with any applicable prepayment consideration.
12	If after the ARD for any series of outstanding VFN or term notes, an amortization period is not in effect and no event of default is continuing, the aggregate unpaid principal balance of the outstanding VFN notes or term notes.
13	If a cash trap condition is continuing and no event of default has occurred and is continuing, the remaining amount of available funds to the cash trap reserve sub-account.
14	During an amortization period or continuation of an event of default, the principal balance of all outstanding notes.
15	Contingent interest, deferred contingent interest, post-ARD additional interest, and deferred post-ARD additional interest.
16	Additional issuer expenses not paid in item 3 due to the annual additional issuer expense limit plus accrued interest to the indenture trustee, servicer, and/or other applicable person.

Table 3

Collateral Pool Expense Waterfall (cont.)

Priority	Payment
17	Operating expenses and maintenance capital expenditures of the asset entities not paid related to items 5 and 7.
18	Executed forward starting lease reserve amount at the direction of the manager.
19	Optional payments on the principal to the class A-1 noteholders at the direction of the issuer.
20	Manager-determined amounts to the capital expenditures reserve subaccount.
21	Unreimbursed advances, including advance interest, to the manager.
22	The remaining available funds to the issuer.

ARD--Anticipated repayment date. VFN--Variable-funding note. LTV--Loan-to-value.

A cash trap condition will occur if the three-month average amortization DSCR is less than 1.30x (the cash trap amortization DSCR), continuing until it is above 1.30x for two consecutive determination dates. During a cash trap condition, excess cash flow otherwise payable to the issuer will be diverted to the cash trap reserve subaccount.

An amortization period will occur if the three-month average amortization DSCR is less than 1.20x (the minimum amortization DSCR), continuing until it is above 1.20x for two consecutive determination dates. During an amortization period, or after and during an event of default, all excess cash flow will be applied to the aggregate unpaid principal amount of the notes sequentially across classes and pro rata among outstanding notes of the same class.

The amortization DSCR is calculated as the ratio of the annualized adjusted net operating income to mandatory debt service, where mandatory debt service consists of interest on the class A notes to be paid over the succeeding 12 payment dates plus 30-year mortgage-style principal that would be paid over the succeeding 12 periods if class A note principal payments were determined assuming a 30-year remaining term and an interest rate equivalent to the blended average rate of all outstanding class A notes.

The servicer must make interest advances on the notes, if deemed recoverable. The advances are meant to cover any shortfalls resulting from timing mismatches because of missed lease payments and any interest shortfalls. This requirement excludes make-whole amounts, post-ARD additional interest, and deferred post-ARD additional interest. If the servicer fails to make an advance, the indenture trustee must make the advance in its place. These requirements for advances serve as a form of liquidity for the notes.

S&P Global Ratings' Stress Scenario Assumptions

To determine the appropriate preliminary rating for the series 2019-1 notes, we analyzed the transaction's cash flows utilizing stress assumptions derived in part from our criteria for rating single-tenant real estate triple-net lease-backed securitizations. We ran various cash flow scenarios to test the transaction's sensitivity to changes in default timing given the transaction's credit enhancement (see "Methodology And Assumptions For Rating North American Single-Tenant Real Estate Triple-Net Lease-Backed Securitizations," published March 31, 2017).

In our opinion, the risk to the cash flow generated from the portfolio of data centers and their associated leases stems from several major factors:

- Defaults of the initial pool of tenants (the lessees);
- The property manager's ability to re-lease the properties vacated by defaulted lessees to new tenants and the renewal rate of tenants that reach the end of their leases;
- The lease terms for new tenants (rental rate and lease term);
- The credit profile of the new tenants; and
- The liquidation value of the data centers toward the legal final maturity of the transaction.

The primary modifications made to our triple-net lease criteria to address the differences between triple-net leases and wholesale data center leases, as well as the data centers' relative lack of performance history were:

- We did not assume any lease acceptance in the bankruptcy proceedings for defaulted tenants, given the lack of historical observations of defaulted wholesale data center tenants.
- We did not assume property liquidations before the 12-month window before the transaction's legal final maturity for a portion of the defaulted lease pool as we typically would for triple-net leases because the data centers are multitenant. We believe it would likely be more economical for the manager to continue operating the centers rather than liquidate them, even during periods of high vacancy rates.
- For tenants not rated by S&P Global Ratings, we assumed a 'CCC-' rating rather than the typical 'B' rating specified in the triple-net lease criteria. This assumption was driven by the wholesale data sector's lack of performance data.
- Given the lack of eligibility requirements for future tenants' credit quality, we assumed that by the start of year 16, when we apply our second default wave, the tenant pool will have migrated from its current average credit quality down to an average 'CCC-' credit quality.
- Given the limited history of wholesale data lease rates and uncertainty around future supply and demand conditions, we have applied re-lease haircuts for both performing and defaulted leases that are consistent with those one full rating category above the haircut rates specified in the criteria. For example, at the 'A' category, we would assume a 20% loss in rental income upon lease renewal for a performing lease rather than the 15% specified in the criteria. Similarly, at the 'A' category we would assume a 35% haircut to re-lease rental rates post-default for defaulted leases rather than the 30% specified in the criteria.

We used Standard & Poor's CDO Evaluator in conjunction with our ratings on the lessees (or 'CCC-' for unrated lessees), the allocated collateral value per lease (where we took the present value of each lease's scheduled payments as a percentage of the total scheduled lease payments, and used that percentage to allocate a portion of the total collateral value to the lease), and the current remaining terms of the leases to determine the initial pool of lessees' initial default rate. Under our 'A-' stress scenario, our default assumption for the portfolio was 37.6%. We applied the same methodology, but assuming 'CCC-' ratings for the entire portfolio, to estimate a default rate for our second default wave, starting at year 16, of 92.3%.

Additional stress assumptions included:

- For defaulting tenants, we assumed that 0% of the defaulted contracts would be accepted in bankruptcy in the 'A-' stress scenario. We assumed 100% of the defaulted contracts would be re-leased at a 33% haircut to the lease rate (subject to a 12-month re-lease lag).
- For performing tenants, we assumed 100% of contracts would be re-leased subject to an 18% lease rate reduction.

- Twelve months before the transaction's legal maturity, the data center collateral will be liquidated at 50.7% of the initial appraised value.
- We assumed priority expenses would increase at 2% per year.
- We assumed the full $125 million variable-funding note (class A-1) would be fully drawn at closing, despite the 70% LTV limitation.

To determine the liquidation value assumed above, we estimated the properties' value using our commercial real estate methodology. In determining the properties' leased values, we assumed rental income based on the in-place leases, the appraiser's estimate of market rent, and recent leasing data from the market. We also applied a vacancy deduction to the potential gross income. We estimated expenses and expense reimbursements based on information from the appraisals and comparable properties. These expenses included fixed items such as real estate tax and insurance, estimated management fees, and variable expenses, which were reimbursed in our income projections. We determined net cash flow after deducting estimated leasing commissions, tenant improvement expenses, and capital reserves and expenditures based on projected lease roll assumptions. We selected direct capitalization rates based on factors like appraisal and market cap rates, property performance and tenant strength, and property type.

Cash Flow Analysis

To determine whether the available credit support is sufficient to withstand the assumed losses, we examined various simulated cash flow scenarios. In each, the cumulative effects of the assumptions we detailed above were four default curves in two default cycles (see table 4).

Table 4

Default Curves

Year	Curve 1 (%)	Curve 2 (%)	Curve 3 (%)	Curve 4 (%)
1	40	10	10	15
2	10	10	10	15
3	10	10	10	15
4	10	40	10	15
5	10	10	10	15
6	10	10	10	15
7	10	10	40	10

In each scenario examined, the notes could pay timely interest and full principal by their rated final maturity, and there were no deferred expenses (priority, operating, or maintenance capital expenses). Although the transaction documents require the servicer or indenture trustee to make advances on interest payments (if deemed recoverable), no advances were assumed in the cash flow modeling scenarios.

Sensitivity Analysis

Assuming a base-case scenario, in which we assumed the contractual cash flows with no losses and one renewal following the initial lease term, we ran several breakeven cash flow runs to measure the transaction's ability to withstand decreases in revenue or increases in expenses.

Sensitivity run 1: gross revenue reduction stress

We found that the transaction could withstand a 38% reduction in monthly gross revenue and still pay timely interest and full principal by the rated final maturity.

Sensitivity run 2: maintenance capital expense stress

We found that the transaction could withstand a 10.5x increase in monthly budgeted maintenance capital expenses and still pay timely interest and full principal by the rated final maturity.

Sensitivity run 3: priority expense, operating expense, and maintenance capital expense stress

We found that the transaction could withstand an 11% annual escalation of priority expenses, operating expenses, and maintenance capital expenses (instead of the 2% assumed in the rating scenario) and still pay timely interest and full principal by the rated final maturity.

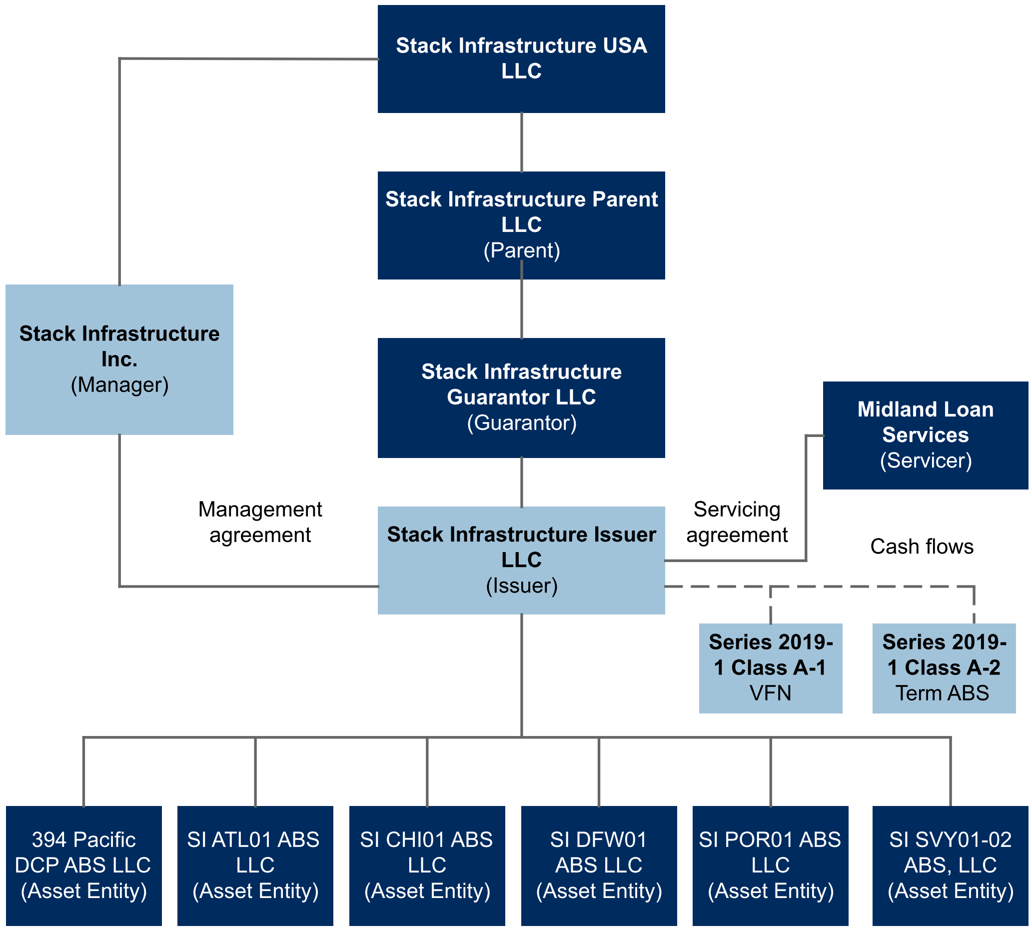
Legal Structure

The issuer is a bankruptcy-remote, Delaware limited-liability company formed solely to hold the equity interests and to issue notes. The issuer will be a direct wholly owned subsidiary of the guarantor and an indirect wholly owned subsidiary of Stack Infrastructure Parent LLC.

We expect the issuers' SPE provisions to be consistent with our bankruptcy-remoteness criteria. In rating this transaction, we will review the legal matters that it believes are relevant to its analysis, as outlined in our criteria.

Chart 6

Transaction Structure



Surveillance

We will maintain active surveillance on the rated notes until the notes mature or are retired. The purpose of surveillance is to assess whether the notes are performing within the initial parameters and assumptions applied to each rating category. The transaction terms require the issuer to supply periodic reports and notices to S&P Global Ratings for maintaining continuous surveillance on the rated notes.

Related Criteria

- Criteria - Structured Finance - ABS: Methodology And Assumptions For Rating North American Single-Tenant Real Estate Triple-Net Lease-Backed Securitizations, March 31, 2016

- General Criteria: Principles For Rating Debt Issues Based On Imputed Promises, Dec. 19, 2014
- Criteria - Structured Finance - CMBS: Insurance Criteria For U.S. And Canadian CMBS Transactions, June 13, 2013
- Criteria - Structured Finance - General: Criteria Methodology Applied To Fees, Expenses, And Indemnifications, July 12, 2012
- General Criteria: Global Investment Criteria For Temporary Investments In Transaction Accounts, May 31, 2012
- General Criteria: Principles Of Credit Ratings, Feb. 16, 2011
- Legal Criteria: Legal Criteria For U.S. Structured Finance Transactions: Appendix III: Revised UCC Article 9 Criteria, Oct. 1, 2006
- Legal Criteria: Legal Criteria For U.S. Structured Finance Transactions: Special-Purpose Entities, Oct. 1, 2006

Related Research

- Cloud Disruption: Cloud Adoption And Digital Transformation Are Positives For The Data Center Industry, Sept. 7, 2018
- Despite Continued Growth, U.S. Data Centers May Face Long-Term Risks From Financial Pressures And Uncertain Tech Developments, Oct. 30, 2017
- Global Structured Finance Scenario And Sensitivity Analysis 2016: The Effects Of The Top Five Macroeconomic Factors, Dec. 16, 2016
- Credit FAQ: Analyzing The Real Estate Characteristics Of Data Centers, July 25, 2016

In addition to the criteria specific to this type of security (listed above), the following criteria articles, which are generally applicable to all ratings, may have affected this rating action: "Post-Default Ratings Methodology: When Does Standard & Poor's Raise A Rating From 'D' Or 'SD'?," March 23, 2015; "Global Framework For Assessing Operational Risk In Structured Finance Transactions," Oct. 9, 2014; "Methodology: Timeliness of Payments: Grace Periods, Guarantees, And Use of 'D' And 'SD' Ratings," Oct. 24, 2013; "Counterparty Risk Framework Methodology And Assumptions," June 25, 2013; "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings," Oct. 1, 2012; "Methodology: Credit Stability Criteria," May 3, 2010; and "Use of CreditWatch And Outlooks," Sept. 14, 2009.